



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,502	11/08/2001	Jonathan R. Coppeta	1099us	2283
25263	7590	01/09/2006	EXAMINER	
J GRANT HOUSTON AXSUN TECHNOLOGIES INC 1 FORTUNE DRIVE BILLERICA, MA 01821			AHMED, SHAMIM	
			ART UNIT	PAPER NUMBER
			1765	

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/007,502
Filing Date: November 08, 2001
Appellant(s): COPPETA, JONATHAN R.

MAILED
JAN 09 2006
GROUP 1700

J. Grant Houston

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/12/05 appealing from the Office action mailed 4/12/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 17-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 17-20 are added that include "dicing the optical element to two-dimensional array and the sidewall of the topographic features are substantially orthogonal", which is not described in the specification.

The specification only discloses the dicing typically includes a die saw or scribe or cleave process in order to define scribe or saw lanes in the substrate (see page 6, lines 20-22).

Therefore, the specification does not support the newly cited claims 17-20.

Claims 1-9,11-15 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane (4,524,127) in view of Hawkins et al (5,824,236) and further in view of Yoshida et al (5,500,869).

Kane discloses a process of making an optical element such as an array of lens on silicon substrate, wherein topographic features such as blind holes or V-grooves are formed on the silicon substrate and the substrate is chemically polished to alter the topographic profile to produce a curved optical surface such as lens (col.1, lines 45-52 and figures 1-6).

Art Unit: 1765

Kane remain silent about the polishing of the substrate surface is mechanical polishing.

However, in a method of forming lens array, Hawkins et al teach that lens material can be preferably polished by chemical mechanical polishing and also teach that optically polished surface can be formed either by chemical etching/polishing or chemical mechanical polishing (col.8, lines 18-35).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of claimed invention to combine Hawkins et al's teaching into Kane's process by replacing chemical polishing with mechanical polishing such as chemical mechanical polishing because chemical polishing or etching and chemical mechanical polishing are functionally equivalent as taught by Hawkins et al.

Furthermore, mechanical polishing with the aid of chemical presence will increase the polishing rate than that of only chemical polishing and one of ordinary skilled in the art would have been motivated to do so.

Modified Kane remain silent about the dicing the substrate into optical elements.

However, in a method of making optical elements including lens array, Yoshida et al teach that after forming lens array on a silicon substrate, dicing the substrate in to individual optical devices (col.5, lines 32-35, col.7, lines 3-9 and col.8, lines 27-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of claimed invention to employ Yoshida et al's teaching of dicing the substrate into individual devices into modified Kane's process because such modified process will

Art Unit: 1765

provide a plurality of devices at the same time by reducing the processing cost as taught by Yoshida et al.

As to claims 9 and 11-12, Kane teaches that after polishing the substrate, an optically coating such as anti-reflecting coating is formed on the polished surface (col.3, lines 49-51).

As to claims 17-18, Yoshida teaches that the dicing line (21) is two dimensional (see figure 1) and it would have been obvious to one of ordinary skilled in the art that the diced optical devices have orthogonal wall depending on the types of optical devices to be made.

Claims 10,16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane (4,524,127) in view of Hawkins et al (5,824,236) and Yoshida et al (5,500,869) and further in view of Meyers et al (4,451,119).

Modified Kane discussed in the paragraph above but fail to disclose the polished surface of the surface is coated with a highly reflective layer.

However, in a method of making mirrors, Meyers et al teach that a highly reflective layer is conventionally deposited on a polished surface in order to make mirrors (col.5, lines 45-65 and col.6, lines 1-6).

Therefore, it would have been obvious to one ordinary skilled in the art at the time of claimed invention to combine Meyers et al's teaching into modified Kane's teaching in order to make quality mirrors with high reflectivity as taught by Meyers et al.

Art Unit: 1765

As to claims 19-20, Yoshida teaches that the dicing line (21) is two dimensional (see figure 1) and it would have been obvious to one of ordinary skilled in the art that the diced optical devices have orthogonal wall depending on the types of optical devices to be made.

(10) Response to Argument

Applicant's arguments filed 10/12/05 have been fully considered but they are not persuasive. Applicant argues that Hawking et al does not teach anything about producing curved surfaces by any kind of polishing and argues that Hawking et al teach that polishing can be planarize or produce flat surface.

In response, examiner states that the argument is not persuasive because the secondary reference (Hawking et al) is relied upon to show the functional equivalency of **chemical polishing** with **mechanical polishing** such as chemical mechanical polishing (see the rejection).

One of ordinary skilled in the art would recognize that chemical etching and mechanical polishing are equivalent in method for a wide range of applications, not only planarization. For example, applicant admits that it is known that mechanical polishing can shape substrates (see specification page 6, lines 3-10).

It is noted that the primary reference (Kane) already teaches that producing curved topographic features on the optical element (see the rejection).

Art Unit: 1765

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

SA
December 21, 2005

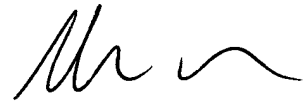


Shamim Ahmed
Primary Examiner
Art Unit 1765

Conferees:

Glenn Caldarola

SPE, 1764



Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700

Nadine Norton

SPE, 1765

NADINE G. NORTON
SUPERVISORY PATENT EXAMINER

